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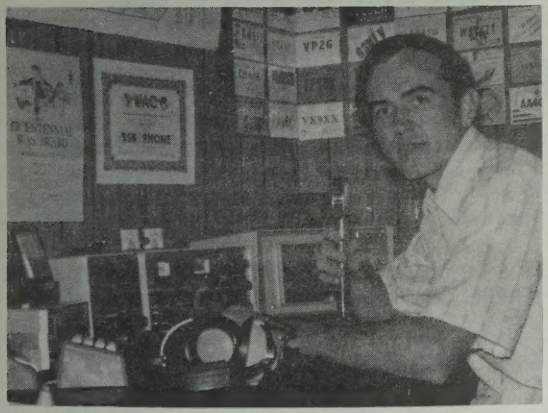
"RALEIGH AMATEUR RADIO SOCIETY NEWS"

OCTOBER 1976 ISSUE 84

MEET YOUR MEMBERS...



RON OATES, WA4JWT

Ron Oates, Jr., WA4JWT, "discovered" ham radio when he was in the eigth grade in hometown Faison in Duplin County southeast of Raleigh.

"When no one was looking, I adjusted the trimmer capacitors on an old standrad broadcast receiver in the house and discovered amateur radio," Ron said. "This was in the AM days of ham radio, so I suppose I was hearing the 75 meter phone band."

Not having a call book -- "I didn't know what a call book was" -- he sought to track down some of the North Carolina hams he heard on the air by sending cards to such places as the fire station in Greenville, hoping someone might know the ham and forward the card to him.

In high school, he built a Knightkit receiver and learned about code records and books on amateur radio. He ordered a license manual and a code record and began studying. "What I could learn, I learned, and the rest of it, not having anybody to explain it to me, I more or less memorized," Ron said.

Through a local scoutmaster he learned of a ham in nearby Goldsboro who supervised his code and theory tests. "I operated one year as a novice, but my novice career wasn't all that great," Ron said. "I didn't have anybody to help me along, and I used a vertical all this time, not knowing a vertical required radials. I think I made 40-some contacts as a novice."

Ron took his novice test in the summer of 1962. He received his license after he entered North Carolina State University in September. During his freshman year at NCSU, he earned his technician's ticket and later went to Norfolk to take his test for general class. Three years ago he moved to advanced calss.

Ron graduated from NCSU in 1967 with a bachelor of science degree in electrical engineering. He worked six years at Newport News Shipbuilding and Drydock Co. in Virginia. While there, he attended evening college at Old Dominion University four years and earned a master's degree in electrical engineering. He has been with Carolina Power and Light Co. in Raleigh for the past three years. He works in the power plant engineering department.

PUBLISHED MONTHLY BY THE RALEIGH AMATEUR RADIO SOCIETY, INC., P. O. BOX 17124, RALEIGH, NORTH CAROLINA 27609 ■ MATERIAL CONTAINED HEREIN MAY BE REPRINTED WITHOUT PRIOR PERMISSION WITH CREDIT GIVEN THIS PUBLICATION ■ TECHNICAL EDITORS - BERT BAILEY, W4FMN AND JACK KENNEY, WB4MCU ■ OFFICERS: PRESIDENT - CHUCK LITTLEWOOD, W4RUH; VICE PRESIDENT - DAVE THOMAS, K4SAN; SECRETARY - JIM LEATHERWOOD, WA4BOV; TREASURER - PAUL THOBURN, WB4MKY ■ PRINTED BY QUIKCOPY, RALEIGH, NORTH CAROLINA 27608.

Ron operates a Yaesu FT-101E for the low bands to feed a tri-band beam atop a 70-foot tower. For two meters, he has a Yaesu FT-2 scanning rig and a 22-element stacked array on his tower. He is a "little bit" involved with slow scan TV. He has a monitor but no camera.

His big interest at the moment is voice DX, in which he got started last fall. "Primarily as a result of this tower, I've got more than 150 countries logged," he said. He has certificates for DXAC, WAC, and a bicentennial WAS. He has been working on a five-band WAS and has worked all states except Alaska on five bands. He has been unable to work Alaska on the 10-meter and 15-meter bands.

"I was amazed to work 49 states on 10 meters during sunspot minimum," he said. "I guess Alaska will be a long time coming."

Ron said amateur radio developed in him a desire to travel and see the world. "Four years ago my wife and I made it through seven or eight countries in Europe," he said. "I hope to take in a few of the other call areas someday."

Wife Linda is a fourth grade teacher in the local school system and Ron said she is "very understanding" about his hamming activities. "She talks occasionally to her mother in Suffolk, Virginia through an amateur phone patch," Ron said, "and she gets a big charge out of that. She doesn't have time for radio herself, but she's very understanding about my part in it."

Ron joined RARS about a year ago. "My next door neighbor, Bert Bailey, W4FMN, introduced me to the club," he said.

He said Bert and RARS members Rich Homolya, WA4BVP, and Ken Rudder, WA4JJW, helped him erect his 70-foot tower.

Ron describes himself as an "avid sports fan." He is a "pretty active" member of the NCSU Wolfpack Club.

Ron and Linda have one child, daughter Kathy Lynn who was born June 21, 1976.

Ron is 32. He was born May 8, 1944.

OCTOBER MEETING

The October meeting of Raleigh Amateur Radio Society will be held 7:30 pm, October 6 at the Community Room in Crabtree Valley Mall.

Club members will hold their annual auction of unwanted equipment and assorted dispensables (known in less refined circles as junk). You may find just what you're looking for waiting to be auctioned, so don't miss this outstanding yearly event.

Free coffee and doughnuts at the break to get you primed for spirited bidding.

If you are reading this, you are invited. You don't have to be a member of RARS to attend our meetings. However, if you are reading this copy of RARS News, you must be interested in ham radio. And if you are interest in ham radio and you live in the Raleigh area, you ought to belong to RARS.

Our meetings consist of a business session, a coffee and doughnut break (free), and our program.

So don't miss our big annual auction the first Wednesday in October. That's October 6, at 7:30pm.

Come and enjoy the friendly fellowship of hams.

PLANNING AHEAD

The program for the RARS meeting in December will be a tour of Exide Power Systems of Raleigh.

Joe Homovec, WA4ENZ, will coordinate the program. Joe is purchasing agent for Exide. He is a RARS member.

The Exide tour will be held Wednesday, December 1 at 7:30 p.m.

FOR SALE

Ten-Tec argonaut. Excellant condition. Vfo controlled with matching 12 volt power sullpyand operating manual. $200. Call Rick Prescott 787-1846.

RARS2-m synthesizer kit unassembled-sacrifice price. Call Norm WB4EFQ 876-4192.

Motorolla HT-200 walkie-talkie with nicad battery, charger, rubber duck and, manual and xtal for 04/64. Call Tom Alexander, WA4OTA days 828-7206 nights 782-0669.

HW-12A $70. Walt, WA4JCS, Rt 4 Box 401, Oxford, N. C. 27565.

WANTED

Novice xtr and Rcv or HW-16 With VFO. Jim Peeler 787-6036.

FOR SALE

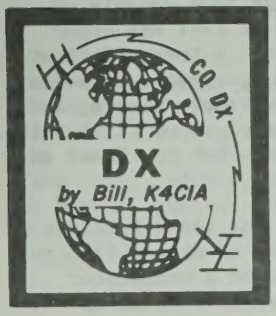
Ross and white 2-m xtrcv 10 watt 12 channel with 11 sets of xtals $100. Call Lynn Baker, WB4IOP 467-7300.

TOM, WB4WII

As most of you may be aware, Tom, WB4WII has been a little ill. His address is, Tom Graham, Rt. 1 Vacation Village, Swansboro, N. C. 28584. Why not drop him a get well card.

CALL LETTER LICENSE PLATES

If you want a personalized call letter license plate, you need to send form MVR-35 with $4 to the Division of Motor Vehicles by 1 Nov 76.



DX COLUMN

Fall is a magic time! The low bands (160 - 40 meters) start to come alive as the static level drops, and most DXer's juices start to flow with anticipation of a new season. Now is the time to install or check your antenna/ground system for maximum efficiency to be ready when the skip lengthens out. Especially exciting are the peaks associated with sunrise and sunset. Watch 160/80 meters 1/2 hour either side of the actual set/rise time. Consult a farmer's almanac for these times. Sometimes the results are unbelievable -- give it a try and see for yourself!

UPCOMING DXPEDITIONS

ZL4LR/C QRV FM Campbell Islands 80/20 meters.
D6AA ex-FH8CE Active FM Comores - will be new country sn.
8P7 prefix to be available in Oct/Nov. FM Barbados.

TIDBITS

TA1MB ARV Sundays 14300 SSB FM 1900Z.
A4XGB available around 1800Z-14275.
LU1ZA QRV 20CW FM South Orkney - Weekend MORNINGS dx contest! CQWW Annual Bash Set For Oct. 30/31 (FONE) and Nov 27/28 (CW).
CE9BSA S. Shetlands QRV 14265 SSB Weekends FM 1200Z.

QSL INFORMATION

A4XGB via G4CTQ
A6XB via K1DRN
A7XA via DJ9ZB
AH3FG via E. WA5OSKY, Box 15562, Montour, Pa. 15244
C21ME via WA5OCN
C3IMS via EA3MS
C6AEY via WB9HAK
FM7AU via I2YAE
FPØLP via W3LPL
JW5DQ via LA5DQ
KG4SC via Box 581, FPO NY, NY 09593
KJ6CF via WA6QFO
ON5NT/LX via ON5NT
PYØ via PY6SL, P.O. Box 31, 40.000 Salvador, Bahia, Brazil
TA1MB via WA1EVO
VP1MPW via W5QPX
VP2KA via W7OK
VP2KAA via W3HNK
VP2LGN via WB9IWN
VP8,HZ,VP8NX via GM3ITN
XT2AG via W1AM
ZB2BD via G3TTG
4S7DA via W3HNK

MANY EARS BETTER THAN TWO (URS)!

Lets put the RARS repeater to use in alerting each other of DX station's frequencies. If YOU hear something of interest that some other club member (or non member) would probably like to work lets put it out on 2 meters. For a suggestion the following format could prove useful: "DX ALERT - DX ALERT HZ1AB IS ON 14230. THIS IS K4CIA".

Who knows - with everyone listening maybe we can scare up a KL7 so Wayne, SNC can finish Bicentennial WAS.

73 & DX
Bill K4CIA

MINI-TECH REVEIW By Jack Kenny WB4MCU

The September issue of Ham Radio leads off with a beautiful 2meter transverter that produces ten watts out from 1 mw input. The siliconix VMP1 MOS power FETS are the secret to the circuit. Other construction articles include a digital frequency readout for transceivers of the Heathkit variety, a solid state morse keyboard, a UHF dummy load capable of handling 150 watts, an automatic beeper to tell the other station when you are through transmitting, a turn off timer to save your batteries on that portable equipment, an audio frequency-shift keyer circuit that is extremely simple, and a number of circuits using the MPC1000 regulator which can handle up to 10 amps at up to 35 volts. There is an excellent article on troubleshooting transistor circuits, and last but not least an article on interfacing a microprocessor with a digital voltmeter.

The September 73 cover picture shows Wayne Greene in a balloon operating as the first Aerostat Mobile. There is an article on this expedition. Buildit articles include an el cheapo 12 volt supply, an antenna relay to protect your VHF convertor, a test lab built around a transistor radio, a 450 MHz transceiver, and an eight trace scope adapter. There are several articles on proms, including how to build a simple prom programmer. There are a number of interesting articles on using indoors antennas, using requlator ICs, a simple Rtty system, and the second article on the DDR low noise antenna system. There is the usual collection of humor and odd facts, as well as several microprocessor articles.

LIZARD LICK JAMBOREE

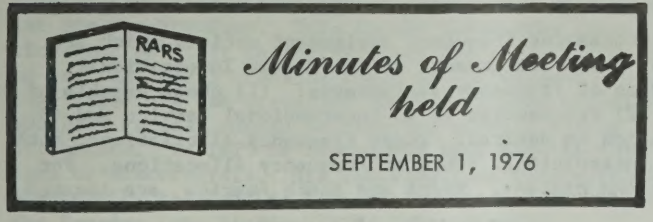
Mayor Charles Wood packed 'em in at Lizard Lick on the 18-19 Sep weekend. His multitude had outstanding support from two RARS' stalwards, Tom W4MGR and Audio Chief Mike K4PSP, who handled the originals at the scene. At the receiving end of the outgoing traffic were Ricky WA4LYN, Bruce WA9NEW/4, Bob K4MC and Bert W4FMN. All traffic was kicked out by 1900 hours Sunday, not too bad for QTHs all over the world. Exact count not yet completed but there were at least 50 generated. When Tom and Mike transmitted, there were definite strains of country music QRM in the background. When Frank C Charley tries Mike and Tom, perhaps this short piece in the RARS rag will gain them some extenuation in mitigation of their sentences. Surely hope so, because neither is really ALL bad. (HiHi). So once agin, Lizrd Lick and its hustling mayor put ham radio on the map. Yours till the next one. 73.

Bert W4FMN

CRABTRANSMITTERSITE!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

Well, who handled the mike this time? Herb K4FBG? Bert W4FMN? Who? You'll never guess. 'Twas Ricky WA4LYN. Yes the N is gone. Ricky keyed his way to a technician ticket and wasted no time pouncing of the 2M rig of Ken WA4JJW, which rig he used to good advantage on Friday 17 Sep. Grinding out about 25 messages, Ricky handled himself like a veteran. His prowess provided ample opportunity for Herb, Tom, Mike and me to do a little prosylyting with visitors, unlike most occasions at this site. As a matter of fact, being able to relax was a most welcome relief after all these months. Picking up all of WA4LYN's traffic was reliable Bruce WA9NEW/4, who coached Ricky in the finer points of traffic handling. And who could be a better teacher? Or pupil for that matter. Anyway, the public are getting more and more used to the kind of work we hams are capable of. And that, my friends, is a real plus for the publicity that we hams need and require so desperately. Kudos to Ricky and all the rest who put in so much time at Crabtree every 3d Friday,--- and mostly to the op who dreamed this operation up in the first place, i.e. Hospital Herb of Cary QTH, K4FBG. So all those who could not make it this time, **come out and contribute in October. Be seeing y'all.**

Bert W4FMN



MINUTES OF LAST MEETING

The regular meeting of the Raleigh Amateur Radio Society was held Wednesday, September 1, in the South Community Room in the Crabtree Valley Shopping Center. President Chuck Littlewood, W4RUH, called the meeting to order at 7:40 pm. There were 50 members and guests who signed the roster. Chuck thanked the crew who operated the portable station, NR4HS, on the steam locomotive bicentennial excursion. Charles Swindell, WB4DCM, and C. T. West were introduced and thanked for their excellent contribution to the RARS Newsletter as editor and associate editor. The Shelby Hamfest was announced as scheduled for Saturday and Sunday, September 4 and 5. Comments were made concerning the possibility of having a RARS picnic on Saturday, October 9.

Jack Kenny, WB4MCU, reported that the Novice Class was successful and that the final class would be Monday, September 13. Ed Alderman, WA4PEN, announced that a CVRA meeting would be held at the Shelby Hamfest. He encouraged members who participate in two-meters to join and support CVRA.

Mike Everette, WA4DLF, was awarded a certificate for his efforts in guiding a RARS project of operating a portable station on the steam-powered train on August 15. He described the experiences of setting-up a portable station aboard the train, "rain and all". Mike gave a full report of the trip and indicated that RARS probably will be invited to participate next year.

Bob Corns, K4MC, reported activities related to the recent fire in the Mebane telephone center. Amateur radio operators operated 13 outpost stations on two-meters to handle emergency traffic and messages. An estimate of 3500 man-hours were donated by the participating hams. Bob also reported current ARRL news.

Joe Homovic, WA4ENZ, reported for Bert Bailey, W4FMN, on the local net operations. Traffic handlers are needed for the Fourth Region Daytime Net at 1300 on 7420 KHz or at 1600 on 7420 KHz. The JFK net at 1830 on 3923 KHz and the RARS Ten-meter Net at 1900 on 28.54 MHz.

Following the break for refreshments, an interesting program was presented by Lee Johnson, WA4ZNA, Jack Kenny, WB4MCU, and Ed Alderman, WA4PEN. They discussed the new repeater that they are preparing for installation in place of the present 04-64 machine. The meeting adjourned about 10:30 pm.

Respectfully submitted,
Jim Leatherwood, WA4BOV
Secretary of RARS

GUEST EDITOR - MIKE STROUPE, K4DRT

The following jigsaw puzzle of alphabetical soup has taken me years to get straight. I submit it with a dual purpose. If it is correct it may provide information for someone else. If it is in error or not up to date, someone please help me refine it.

The nations of the world (with a few exceptions) cooperate for the improvement and rational use of the radio spectrum. The International Telecommunications Union (ITU) acts as the world agent for the distribution of radio frequencies. The ITU is the largest (over 140 members) and oldest organization of national governments. The ITU was originally established in 1865 for the international regulation of telegraphy and the Radio Telegraph Union was added in 1906 for the regulation of radio. The ITU is presently located in Geneva, Switzerland and is an agency of the United Nations. Within the ITU the Administrative Radio Conference provides for world discussion (setting standards etc.) of radio technology matters by the International Radio Consultative Committee (CCIR) and elects the members of the International Frequency Registration Board (IFRB).

The IFRB is the ITU group responsible for processing frequency assignment notices which are received from member countries and recording these assignments in the Master International Register. Member countries submit three types of frequency assignments: (1) those capable of causing harmful international interference (2) frequencies in an international service and (3) frequencies for which international recognition is desired. These frequency allociations, both worldwide and regional, are printed as the International Table of Frequency Allocations. For ITU purposes the world is subdivided into three regions. North and South America are located in ITU region 2.

Most countries exercise centralized control for the assignment and use of frequencies. In nearly every country this is vested in a Ministry of Communications or Post Office Administration. The communications services are also operated by the federal government administrations of these countries. The U. S. is a notable exception.

The Federal Communications Commission (FCC) acts in behalf of the U. S. in submitting notices of all frequency assignments to the IFRB which are to be recorded internationally. However, the responsibility for the assignment and control of the ITU allocations to the U. S. has been delegated to two seperate agencies: (1) the Office of Telecommunications Policy (OPT) under the control of the President is responsible for the assignment and use of radio frequencies by all agencies of the Federal government and (2) the FCC reporting directly to Congress is responsible for regulating all domestic non-federal government radio operations.

K4DRT, Mike Stroupe
Sept. Door-Prize ~~loser~~ WINNER

SUBJECT: NEWS ITEM FOR NEWSLETTER

Leanne and Dave Swaim (WN4LUB and WA4NAG) made the annual pilgrimage to Shelby a little early this year. As a result Leanne is watching the mailbox more closely now. She is watching and waiting for her new license. Leanne passed her general test in Shelby but her mother beat her out. Eloise is also watching her mailbox . . . For Her Advanced License! Who will be the First Extra in the Family? The race is on!

WA4NAG

ARTICLE

Those of you born in the month of September share your birth month with some interesting people. But I'm not going to write about any of them (O.K., I will).

Sir Edward Victor Appleton was born September 6, 1892. Appleton was a radio officer for England during World War I and while serving in this capacity he discovered QSB. Now most of us normal people just say #&$%*+@¢ while the signal is fading out and promptly forget about it as soon as the signal comes back in, but not old Ed. After the war he decided to investigate this phenomina further. He noticed that the fading took place at night and thought that it might be due to the interference of the wave reflected from the ionosphere and the direct or ground wave. He set up a transmitter and a receiver about 70 miles apart. By varying the frequency (and therefore the wavelength) of the transmissions and noting at what frequencies the signals cancelled and added together (maximum and minimum signal strengths) he was able to calculate the effective height of the ionospheric layer. We owe much of our knowledge of the characteristics of the ionospheric layers to Appleton. In 1947 he was awarded the Nobel Prize in physics for his work in this area.

Unlike Appleton, Michael Faraday can't have a "Sir" in front of his name. Born September 22, 1791, Faraday was one of ten children of a London blacksmith. His religion kept him from accepting any honors such as knighthood (hence no "Sir" although he was offered it). He began his career as an apprentice to a bookbinder. Unlike most apprentices he had a habit of reading the insides of the books he bound. Among these were the Encyclopedia Britannica and the famous chemist Lavoisier's textbook of chemistry. Once he attended a lecture given by the famour chemist Sir Humphry Davy. This is not noteworthy except Faraday took detailed notes, drew illustrations and bount it in leather (all 385 pages!). He sent a copy to Davy who was quite flattered to say the least. Faraday hoped to get offered a job. That didn't happen right away but when Davy fired his lab assistant for brawling he offered Faraday the distinguished position of bottle washer. Faraday washed bottles for a while but he soon eclipsed Davy (Davy who?) in his accomplishments. In 1825 he discovered benzene. In 1832 he announced what are now called Faradays laws of electralysis. His contributions to electralysis were honored when the quantity of electricity required to liberate an equivalent weight of an element by electralysis was named the Faraday (one Faraday is 96,500 coulombs).

Faraday was struck by the experiments of Oersted (remember Oerstead?) which demonstrated the electromagnetic connection. He invented a machine that consisted of a copper disk that rotated between the poles of a magnet. The motion of the disk in the magnetic field set up a current which could be led off and used. Although crude, this machine was a demonstration of the principles of the modern day generator. Faraday continued to make contributions to electricity and the unit of capacitance was named the Farad in his honor. To my knowledge, Faraday is the only scientist to have two units of measurement named in his honor.

Those of you who know about the radiation belts that ring the earth will probably recognize the name James Alfred Van Allen. Born in Iowa on September 7, 1914, Van Allen was (and still is) interested in cosmic rays. He was a party to the Explorer space satellites and naturally had cosmic ray measuring equipment aboard them. The Explorer IV and Van Allen discovered the earth's magnetosphere - the Van Allen radiation belts. Before this Van Allen invented, during World War II, the proximity fuse. This was a radio device that sent out a signal that was reflected off a target. The device was attached to a rocket or some explosive device like an antiaircraft

shell. When it came close enough to a target that the intensity of the reflected radio signal was high it detonated the explosive. This eliminated the need to make a direct hit on the target. I suppose you're wondering what redeeming value this has for radio. Well, these devices had to be small and light. Van Allen is a pioneer in miniturization of electronics. He is presently head of the physics department of the State University of Iowa.

Due to a chaotic move from Raleigh to Roxboro my September contribution didn't make the September Newsletter so I find myself writing about October and September birthdays in the same issue. October contains the birthdays of some smart people. Ernest Thomas Sinton Walton (October 6, 1903) shared the Nobel Prize in physics in 1951 for his part in building a type of particle accelerator. Clinton Joseph Davisson (October 22, 1881) received the 1937 Nobel Prize in physics for an experiment that demonstrated that particles (electrons) exhibit wave properties in certain cases. Niels Henrik David Bohr (October 7, 1885) received the 1922 Nobel Prize in physics for his atomic theory. Dr. Jonas Edward Salk (October 28, 1914) prepared the first successful vaccine against poliomyelitis. As you can see there is some heavy brain power there and I haven't even mentioned the composer Guisseppi Verdi (October 10, 1813) who was born on the same day as the chemist Henry Cavendish . . . only 82 years later.

All this is leading up to the one person whose name was vindicated only after his death. Alfred Bernhard Nobel was born in Stockholm Sweden on October 21, 1833. Nobel's life was an explosive one. In 1850 he visited the United States and saw a wilderness being tamed. He could see how roads could be blasted out of mountains by using explosives instead of human muscle. Nobel returned to Sweden in 1859 and began to manufacture such an explosive, nitroglycerine. Now you may have heard of this explosive before. It is what is termed a percussion explosive. Drop it on the floor and it's all over except the cleanup. Well someone dropped some on Nobel's factory floor in 1864 destroying it and everyone therein. The Swedish government would not permit the factory to be rebuilt and Nobel was looked upon as a mad scientist trying to destroy the world. Actually Nobel was a very humane individual and he decided to see if he could make nitroglycerine safer to work with. In 1866 he found that a cask of the stuff he was using to experiment with had leaked. It had been absorbed by the packing which happened to be diatomaceous earth. He discovered that this combination could be flung against the walls or ceiling without going off but with a detonating cap it was dynamite! So that's what he called it, "dynamite." As the inventor of dynamite he was cursed far and wide. The fact that he wanted it used only for peaceful purposes helped not a whit. So his invention served only two purposes for Nobel personally. It made him despised and filthy rich. When he died he left $9,200,000.00 for the establishment of annual prizes in five fields: Peace, Literature, Physics, Chemistry and Medicine. These are the Nobel Prizes and now you know why I mentioned so many obscure Nobel Prize Winners in the above list. The Nobel Institute in Sweden is named for Alfred Nobel and when element 102 was isolated there in 1958 it was named Nobelium. So far Nobelium has not been found to be in the least bit explosive either.

73,
Dave, WA4NAG

RARS RAILROAD

RARS Railroad Goes Big Time; or,
The Story of the NR4HS Expedition

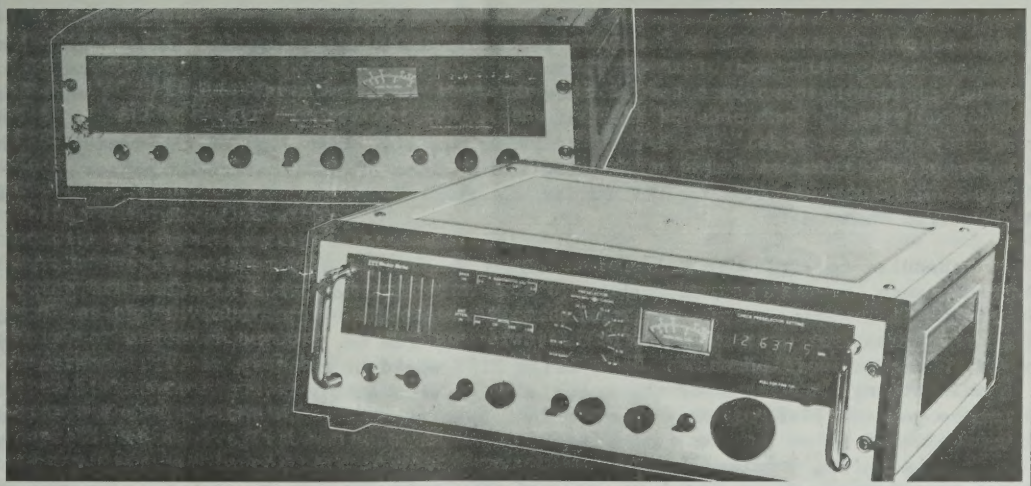
by

Mike Everette, WA4DLF

Hams have done in (or been done in by --?) about every sort of activity there is, in an effort to perform public service work and to promote the greatness of Amateur Radio; but once in a while an opportunity presents itself to do something really unique. So it was in the Bicentennial year of Our Lord 1976.

an extraordinary combination of digitally synthesized receivers...

each with built-in capacity to satisfy a broad spectrum of singular applications.



ITT Mackay Marine 3020A and 3021A Radio Receivers feature solid state construction, dual conversion and super-heterodyne design providing continuous frequency coverage from 15kHz to 29.9999MHz. Frequency selection is accomplished by step tuning, while the 3021A Receiver uses sweep tuning. These receivers meet strict requirements of British MPT, German FTZ, Norwegian NTA, Dutch and Spanish PTT and Canadian DOC, and can be used wherever maximum reliability and ease of maintenance are required.

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ITT Mackay Marine

The gentlemen at the guiding helm of RARS had been casting about for a worthwhile and useful, and incidentally different, project for the Club's Bicentennial communications commemoration. At first it was hoped that the USS NORTH CAROLINA, the First Lady of the Navy, might once again be heard from via the ether with some assistance from RARS; but this ran into logistics trouble (besides, hams had done that before, when the USS MASSACHUSETTS, Second Lady of the Fleet, was moved to her permanent berth). Then, the Truly Unique Opportunity knocked. The Southern Railway, in conjunction with the East Carolina Chapter of the National Railway Historical Society was sponsoring a steam powered passenger train excursion from Raleigh to Chocowinity, NC and return. August 15, Sunday, was the date. A similar trip was being sponsored from Durham to Keysville, VA, the day before, by a Durham civic club. The First Lady of the Rails, Southern's big green-and-gold-and-silver 2-8-2 Mikadotype locomotive, Number 4501, would do the honors on the point of the trails (4501 was built in 1911 by Baldwin Locomotive Works in Philadelphia, and was Southern's first Mikado; she's been a movie star on occasion since her restoration in 1965, most recently masquerading as Number 1409 on FDR's funeral train in "Eleanor and Franklin") Why not put a mobile station aboard the trains? Now, hams hand't ever operated on the railroad before (to our knowledge), and the Bicentennial tie-in was perfect, since amateurs in the Army Signal Corps had set up and handled communications from FDR and Truman's Presidential trains during WW2 (no Air Force One then). The idea was given a green-board (RR-ese for "proceed"). It was a real natural, since RARS is a railroad club (if you don't believe, come to a meeting and hear the whistle blow with Chuck hollerin' " 'BOOAARD!" as jobs come up!)

After two weeks of telephoning, Mr. James Bistline, Southern's Vice-President for Steam Operations, was reached (incredibly busy man!), and instantly liked our proposal, as it would also give Southern Railway some good exposure. We explained that we planned to operate one or two HF stations, plus one on 2 meters, handling traffic and making general contacts. We hoped for a special commenorative callsign, and special picture QSL cards of the train. Mr. Tom Johnson, of Asheboro, President of East Carolina Chapter, NRHS, was also approving of the venture. The Durham trip later had to be ruled out by Mr. Bistline because of some railroad/sponsor administrative and logistics considerations but Sunday was still "Go." As it turned out, we had all we could handle with that one!

The train was scheduled to arrive in Raleigh on August 7, Saturday, to be held in the yard for needed maintenance, until taken to Durham the following Saturday for the first trip. We RARS members figured on having a week of access to the coaches for needed equipment tests and antenna rigging. We had settled on using a rig completely run on battery power , as the only juice aboard the train was 32v or 64v DC. An Atlas 215X would be one of the HF rigs, with a long-wire antenna strung the length of the coach and fed with an Ultimate transmatch. The VHF rig was to be an Icom IC-230 with a 50-watt RARS Special amplifier, using a magnetic mount ½-wave whip. A bank of seven 12v car batteries was secured for power. We hoped to have standby power from the midtrain commissary car of 115v AC to run a battery charger (the AC line regulation, we were warned, was too poor to use for the rig). As for the HF antenna, clearance problems along the railroad made it mandatory that it be kept close to the coach roof -- no more than two or three feet away. We could see that tuning such an arrangement might be ticklish, since the entire car was metal. Our problems were confounded when it was learned that the train would be kept not in Raleigh, but Durham, for the week before the trip, and would not be accessible to us until Saturday, August 14, after completion of the Keysville trip and ferrying to Raleigh. This was scheduled to be completed by 9:00 pm that night. Railroad schedules have a way of being flexible.....

Lee, WA4ZNA; Jack, WB4MCU; George, WA4MKJ; Lynn, K4NYV; and yours truly, were responsible for getting things rigged. Joe Stevens, WA4JZX, RARS-in-absentia from Elizabeth City, NRHS member, joined us to act as intergroup liaison and help with antennas-- and what a help he was! We couldn't have done without his aid! Joe, myself, and Gary Carter, WA4IAM, of Rocky Mount, went to Durham to ride the train over to Raleigh on Saturday night, helping the NRHS cleanup crew and looking over the antenna/rig possibilities in the various cars. WB4MCU's Wilson HT was used to coordinate activities. All day Saturday had been a mad scramble to get everything rounded up; and at 4:00 pm it was discovered that our special call sign, NR4HS, previously applied for, hand't been received in the mail. Oh well, we'll use W4DW/railroad mobile. JZX heard of this, and while waiting for the train in Durham, called NYV on 2 meters. "Call the

FCC Watch Officer in DC, see if you can get a verbal OK on the call." Lynn answered, "Okay, as soon as we get the HF rig going-- the Atlas won't put out but about 10 watts!" Somebody up there hates us!

9:00 pm. Train arrives, finally, in Durham. As soon as it stopped and doors were opened to unload, WHOOSH! The biggest thunderstorm of the summer cut loose. All three of us and all the NRHS people were soaked to the skin, before we could board. By 10:15 the train was ready to pull out. We cleared the Durham yards by 10:45 and all the cleaning was finished, so we got to enjoy the ride. It was quite spectacular to lean out a vestibule door and see 4501 rounding a curve, headlight stabbing the misty darkness, smoke and steam swirling up and back, being lit a bright orange by the glare from the open firebox door and showers of sparks from the stack; the mournful wailing of the whistle, pulled by an engineer who could play a tune to rival the legendary Casey Jones' famous "whippoorwill." After clearing Cary we raced along at a mile a minute, drivers pounding and whistle screaming through the NCSU campus, waking half of Raleigh; but slowed to a crawl as we entered the yard. The rest of the antenna crew had been alerted via 2 meters to come meet the train in the yard to begin work. That HT was handy; on the way over, K4NYV informed us he'd gotten the call! The watch officer had been phoned, and he had called Charlie Higgenbotham at home for the verbal OK! Higgenbotham had told Lynn, "It's all right to use NR4HS for the day -- if you get anything in the mail saying it's disapproved just throw it away." (We got the license in the mail, approved, on August 20!) Lynn also informed us he'd gotten a second Atlas from K4ITL (many thanks!), Danny Hampton; so our HF worries were over.

It was well past midnight before the train was switched and parked, so we could start work. Fortunately we had everything we needed and the installation took only until about 1:30 am. (we had to be back to board the train at 6:45 am-- yawnnn.....), and it was readily apparent that our apprehension about the HF antenna being a bit critical was well founded. It wouldn't load on 75, was hair- trigger on 20, and we could move about plus-or-minus 10 KHz on 40 before the SWR went from 1.5:1 to 10:1. We weren't even sure we were getting out since 40 was dead except for foreign broadcast, electrical noise and a couple of WA2's who we tried to break in with, but they couldn't make out our call since it was too strange. What the heck, it's 2 am, let's go home! It probably works.

Six am came all too early. Our erstwhile crew of intrepid hams all made it to the rail yard and esconced themselves again in Southern Coach #1067. The rig was permanently assembled in a rear facing seat and once again checked over. The entire HF setup was extremely hot with RF and the high SWR couldn't be gotten down. The SWR problem was found to be due to the close proximity of a line of freight cars, since the loading shifted completely as we left the yard tracks (it would also shift quite noticeably every time we passed under a bridge and with the closeness of overhead wires.) Things started out slow, even on 2 meters, after we worked the guys who were waiting for us from the night before; and yours truly couldn't get a squeak out of the HF rig. As it turned out, none of the tech-types could make it work -- the operator-guys did just fine! Before the day was over, we worked about 14 states, checked into EASTCARS, MIDCARS, nets in Florida, the Northeast, etc. etc. On 2 meters, many QSO's were made through the Raleigh repeaters, Grifton and Greenville. Lots of guys heard us and followed the train in their cars and a few even got aboard in Greenville and Chocowinity to ride with us. Two of the Greenville gang even spelled our operators partway (Jim, K4AJR, and Jack, W4DXJ).

Our presence on the train earned its keep and the undying gratitude of Southern Railway and the NRHS crew, as a result of two incidents requiring public-service work. The train stopped in Farmville to allow for coaling and watering of the locomotive, and after arriving in Greenville it was learned that we had an additional passenger somewhere. A small boy had boarded unbeknownst to his family; whether he got on to look around during the long station stop and didn't get off in time, or stowed away, is unclear. The train was flagged down a few blocks from Greenville station by a police car, but the boy wasn't found then. A few miles on up the line, the NRHS conductor came by with the culprit and asked if we could contact Greenville or Farmville and advise of his safety. But of course! We alerted a mobile in Farmville, and as it happened he knew where the family lived, found them out looking for the boy and relayed the message personally. Super service. The second occasion came about as it was discovered that

Tom Garren, one of the NRHS safety crew, had lost his railfan cap out the window of a coach near Stantonsburg on the trip down. He had, of course, a large number of railroad emblems sewn on it, but also some cherished and irreplaceable keepsakes: his grandfather's numbered Railway Express Agency badge, and his uncle's 25-year service pin from the Atlantic Coast Line. On the way back, the hat was seen alongside the track and its location was pinpointed; Tom rushed back to our position to ask if we could get someone to recover the hat. Well, K4PRJ from Kinston was waiting for the train to pick up his two daughters who were aboard, at Wilson. It just so happened he was raised in Stantonsburg and knew exactly where the hat should be. He met with Tom at the station, and about 15 minutes after we left Wilson, the word came back on 2 meters: "We have the hat in the car and will mail it to you." He did, too; Tom had it Tuesday. Mr. Garren is a good prospect for our next Novice class! Some 12 messages of a general nature were handled out-of-state by the good offices of K4MC and the NTS, with other local traffic going out on 2 meters.

The train arrived back in Raleigh under threatening skies. Lots of thunder could be heard and the clouds were black, but only a few sprinkles fell as we discharged our passengers behind the Norfolk Southern offices on North Boulevard. Our crew had to ride on into the yard to unload. This took about 45 minutes, and once again, just at the point of stopping, a terrific deluge broke loose. The Southern crew chief advised us, "Boys, we're stopped to unload but we're on the through track-- we'll be here only about 20 minutes!" GRREAT! Rain fell in sheets; our cars were on the opposite side of the yard; no way to drive over. While yours truly madly scampered to his car to bring a ladder so we could get the antennas off the coach the other guys shoved gear out the door and sat it underneath a boxcar to keep it dry. Once again we all got soaked thoroughly but since we were all covered in coal cinders it was a blessing in disguise. We crammed gear and operators into whosoever's car would hold them, and retreated to WB4MCU's house to sort things hurriedly out. We were all worn out. By 10:00 pm, all was finished and a bunch of very wasted but by and large satisfied RARS members were getting ready to QSO the sheets for quite a while.

The entire crew deserves a vote of thanks for making this operation a success. Lee Johnson, WA4ZNA; Jack Kinney, WB4MCU; George Richards, WA4EKJ; Lynn Pendleton, K4NYV (who got "railroaded" another way at the last minute and couldn't ride); Pat Whetzel, WA4CLT; Ed Alderman, WA4PEN (for loan of a good hot battery), Tom Moody, W4MGR; Chuck Littlewood, W4RUH (for loan of a rig, battery, and much moral support); Mark Sumner, WN4DFP (who made at least one CW QSO on 40); Joe Stevens, WA4JZX; Gary Carter, WA4IUM; Danny Hampton, K4ITL. If I've left anyone out, advise and I'll see you get mention next month. We're especially grateful to Tom Johnson of the East Carolina Chapter, NRHS, and James Bistline of Southern Railway for the opportunity.

We learned a lot from this caper, and it's quite likely we'll try it again in the future; hopefully next time we will have more time to plan and iron out technical problems. It was a rousing success and was thoroughly enjoyed by all.

TRAIN TRIP ADVENTUROUS

A lost boy, a lost hat, and the sound of a steam engine whistle heard by a ham in Ontario, Canada were some of the highlights in the life of special ham station NR4HS aboard a train that carried nostalgic travelers into yesteryear August 15.

Southern Railway Steam Engine Number 4501, built in 1911, carried a trainload of railroad buffs to Chocowinity and back to Raleigh with much memory-provoking huffing and puffing and long musical blasts of its lonesome steam whistle.

The trip was sponsored by an area chapter of the National Railroad Historical Society. The special station call aboard the train took its letters from the society, NR4HS.

The train left Raleigh about 8:00 a.m. The lost boy adventure began in Farmville. The eight-year old was with his parents at the station to see some friends off on the train, and after the train pulled out the parents realized their son was not around. The train had made a stop in Greenville and was pulling out when local police stopped it and told railway officials the boy's

parents believed him to be on the train. There was a search, much calling of the boy's name, but no boy. The trail departed.

A short way down the track, the boy appeared, enjoying his train ride immensely. Amateur station operators contacted a ham in the vicinity of Farmville who went to the railroad station and, using the description the boy gave of the family car, found his parents and told them their son was safe aboard the train and having a good time.

Presumably, the good time continued until the train returned to Farmville. But that part of the adventure does not concern ham radio.

During the trip eastward to Chocowinity, a young NRHS member was leaning outward over the side of a railway car when his hat blew off near a rural crossing in a wooded area near Stantonsburg just southeast of Wilson. On the hat were two pins that were of great sentimental value and irreplaceable. One of the pins was a 25-year service pin from the Atlantic Coast Line Railroad that had been given to his grandfather. On the return trip, he spotted the hat still lying on the roadbed. Amateur operators contacted a Wilson ham, K4PRJ, who was reared in the Stantonsburg area. He immediately went directly to the spot, recovered the hat, and took steps to have it returned to its owner.

Somewhere along the way, one of the NR4HS operators contacted an amateur operator in Ontario, Canada on voice. He stuck the microphone out the window during a blast of the steam whistle, and the Canadian ham gleefully acknowledge he heard it.

The train arrived back in Raleigh about 8:00 p.m. with tired and happy people aboard, many of them already making plans for next year.

MORE ADVENTURE WITH STEAM ENGINE 4501

(GETTING THE CALL SIGN)

The FCC must authorize all special call signs, and RARS, planning for the railroad trip behind Steam Engine 4501, submitted a timely application requesting the special call NR4HS for a ham station aboard the train. The rail trip was schedule for August 15, Saturday.

Friday, August 13 came. No letter from the FCC authorizing the special call.

Saturday, August 14, the final mail, still no letter. Panic began to set in.

At 10:00 p.m., RARS president Chuck Littlewood, W4RUH, and members Lynn Pendleton, K4NYV, and Joe Stevens, WA4JZX, of Elizabeth City, hdddled to decide what action to take. Joe suggested calling the watch officer at the FCC in Washington, D.C. Lynn got the watch officer on the telephone. Chuck explained to the officer what the situation was. The officer called a member of the commission who gave verbal authorization for use of the special call. The commissioner also relayed through the watch officer this message along with the verbal authorization: "If you get something in the mail saying you can't do it, call me."

The written authorization for the NR4HS call arrived a week after the trip.

(THE PEOPLE WHO HEARD THE WHISTLE)

Mike Everette, WA4DLF, was the honcho for the railroad ham station project. So far as anyone in the club knows, it was the first time an amateur station was operated aboard a train pulled by a steam engine.

The "grunts", as George Richards, WA4EKJ, described them, were, in addition to George:

Jack Kenny, WB4MCU	Lee Johnson, WA4ZNA
Tom Moody, W4MGR	Pat Whetzel, WA4CLT

Lynn Pendleton, K4NYV
Danny Hampton, K4ITL
Chuck Littlewood, W4RUH
Ed Alderman, WA4PEN
Bob Corns, K4MC, all of the Raleigh area, and
Joe Stevens, WA4JZX of Elizabeth City,
Jim Hackney, K4AJR of Washington, and
Jack Edwards, W4DXJ of Greenville.

They did a good job. They had a good time. And they're looking to the next trip.

WT-PREFIXED CALLS (Credited HR Report July 30, 1976)

WT-Prefixed Calls have been issued to a few Amateur license applicants who've been the victims of an extreme foulup in the FCC's paperwork mill. The WT (for temporary) calls are good only until the computer issues the new Amateur's permanent call, so they should be very good catches for prefix hunters.

NEW MEMBERS

J. W. Crockrell, Knightdale, No Call.
Charles E. Gustafson, WN4MBP, Raleigh, Engineer With CP&L, wife is Helen.
Mark W. Sumner, Youngsville, WN4DFP.

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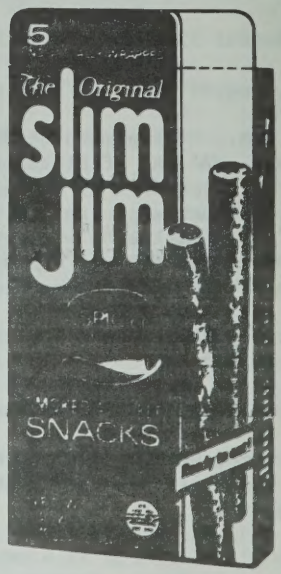

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CB -- CHAOTIC BROTHERHOOD?

According to a recent wire service story, a report prepared by a private consulting firm for the White House Officeof Telecommunications Policy predicts chaos on the Citizens Band frequencies in a few years -- and the Federal Communications Commission powerless to regulate it.

According to the news story, the report predicts CB radios being used to organize riots, with police jamming the frequencies in an attempt to defuse the riots, and increased sunspot activity in 1978 causing skip that will disrupt communications in Europe and South Amrica. The report predicts that domestic television and FM radio will experience interference from faulty CB equipment. It also predicts that by 1979 the FCC, to all appearances, will have abandoned enforcement of its CB rules.

The report predicts that 100 FM channels will be available for CB use by 1980, but people who want licenses must have voice prints made so on-air violators can be identified. It also predicts that the FCC will put all CB on FM in 1984.

Of course, the report is an analysis of trends and a judgment of what the analyst thinks will happen. The future could prove the report wrong. CB'ers could get rule religion tomorrow and the CB channels could be transformed into models of decorum and procedural piety.

And human nature could change tomorrow, too.

What all this means to us, fellow hams, is this. More than ever, amateurs must set the example, and the example must be good.

We're at the top in the hierarchy of citizen radio communicators. The CB brotherhood acknowledges the higher status of amateur, the higher rank, if you will. Rank hath its privileges, but it also has its responsibilities. Foremost among the responsibilities is adhering to the rules and regulations that permit us to operate efficiently, effectively, and responsibly.

That means when a ham steps outside the bounds set by the rules, he is threatening all of us. No ham has that right. If he does not have enough respect for the privileges of fellow hams to conduct himself so those privileges are not threatened, he has no business on the air. It then becomes the duty of the offended fraternity to see that steps are taken to remove the threat.

It's not a case of reporting a buddy. It's a case of protecting the hard-earned privileges hams have, privileges that are under severe pressure.

If an erring ham is not gentleman enough to heed friendly warnings from other operators, the fraternity has no choice than to see that he bears the consequences of his actions.

The more CB grows, the more the eyes of the country are going to be on amateurs. Let's provide the leadership hams are expected to provide. Let us set the good example by our actions.

CT

NOVICE EXAM RESULTS (Credited HR Report August 20, 1976)

Novice Exam Results can be learned much more quickly than waiting for receipt of the license. Simply enclose a self addressed, stamped post card with "_____Failed" and "_____Passed" on the back and the exam grader will mark and return it when the exam is done and graded at Gettysburg.

AMATEUR RADIO CLUB OFFICERS (Credited HR Report September 3, 1976)

Amateur Radio Club Officers should be sure their group is on the list we're compiling (HR Report 105). Send club name, mailing address, current officers and statement of purpose to HR Report.

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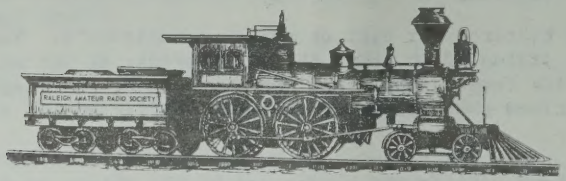

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